Amendments to the Claims:

1-13. (canceled)

14. (original) A computer readable medium containing a plurality of data structures for finding a full match for a variable length search key, comprising:

   a pattern or key that is to be searched;

   a direct table that stores a first address location for a search tree;

   a plurality of pattern search control blocks that each represent a branch in the search tree; and

   a plurality of leaves wherein each leaf is an address location for the result of a search.

15. (original) The computer readable medium containing a plurality of data structures for finding the full match of claim 14 further comprising a lookup definition table that manages a tree search memory.

16. (original) The computer readable medium containing a plurality of data structures for finding the full match of claim 15 wherein the lookup definition table comprises entries that define a physical memory that the tree resides in, a size of the key and leaf, and a type of search to be performed.

17. (original) The computer readable medium containing a plurality of data structures for finding the full match of claim 14 wherein the lookup definition table is implemented in a plurality of memories.

18. (original) The computer readable medium containing a plurality of data structures for finding the full match of claim 14 wherein a format for a direct table entry includes at least one of a search control block; a next pattern address that point to a next pattern search control block; a leaf control block address that points to a leaf or result; a next bit or bits to test; and a direct leaf.

19. (original) The computer readable medium containing a plurality of data structures for finding the full match of claim 14 wherein a format for a pattern search control block includes at least one of a search control block; a next pattern address that point to a next pattern search control block; a leaf control block address that points to a leaf or result; and a next bit or bits to test.

20. (original) The computer readable medium containing a plurality of data structures for finding the full match of claim 14 wherein a leaf data structure includes at least one of a leaf chaining pointer; a prefix length; a pattern to be compared to the search key; and variable user data.

21. (original) The computer readable medium containing a plurality of data structures for finding the full match of claim 18 wherein the direct leaf is stored directly in a direct table entry and includes a search control block and a pattern to be compared to a search key.

22. (original) The computer readable medium containing a plurality of data structures for finding the full match of claim 14 wherein a pattern search control block is inserted in the search tree at a position where the leaf patterns differ.

23. (original) The computer readable medium containing a plurality of data structures for finding the full match of claim 14 wherein a pattern search control block has a shape defined by a width of one and a height of one and is stored in a memory that has a line length of at least 36 bits.

24-45. (canceled)